UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/593,118	06/13/2000	James Howard Drew	99-836	5555

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EXAMINER
ROBINSON BOYCE, AKIBA K

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/593,118	DREW ET AL.
	Examiner	Art Unit	
	Akiba K Robinson-Boyce	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 August 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-70</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-70</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/24/04

has been entered.

Status of Claims

2.   Due to correspondence filed 8/24/04, the following is a non-final office action.

Claims 1-4, 12-19, 21, 23, 25, 27-34, 42-55, 57-62 and 65 have been amended. Claims

66-70 have been added. Claims 1-70 are pending in this application and have been

examined on the merits. The previous office action has been withdrawn, and the

following reflects the claims as amended.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claims 1-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of :

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful art" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim, the recited process must somehow apply, involve, use, or advance the technological arts.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breath life and meaning into the preamble.

In the present case, the preamble of claim 1 recites "A method, performed by a processing system, for evaluating customer value to guide loyalty and retention programs".   However, since no computer hardware or software embodied on a tangible

medium are in the body of the claim, claim 1 and all claims that depend from it (2-15)

are therefore non-statutory.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-4, 13,16-19, 28, 31-34, 43, 46-49, 58, 61-64, are rejected under 35

U.S.C. 103(a) as being unpatentable over Flockhart et al (US 6,064,731), and further in

view of the Bank Marketing International article entitled "Are your customers profitable?"

As per claims 1, 16, 31, 46, Flockhart et al discloses:

generating a hazard function model based on attributes relating to a plurality of

current customer accounts, /a calculating module/means for calculating, (col. 3, lines 5-

11, "at risk" customer function invoked by account number, where the "at risk" customer

function represents the hazard function model and the customer account number

represents the attribute);

generating a hazard function for an existing customer, to determine probability of

churn based on the hazard function model and account data associated with customer

and corresponding to the attributes/a generating module/means for generating, (Col. 3,

lines 32-38, comparing the customer account number to the "at risk" database to

determine if the customer is an "at risk" customer, also col. 1, lines 12-32 shows that the

determination of an "at risk" customer is for existing customers);

determining a focus for retention-based interactions with the customer based on

at least one of the hazard function and gain in lifetime value/means for determining,

(col. 3, lines 38-52, shows that if there is an "at risk" customer, special treatment is

implemented, also, col. 1, lines 24-28 shows that business generally implements

customer service focus on agent training in an attempt to maintain high standards of

service).

Flockhart et al does not specifically disclose calculating a gain in lifetime value

for the customer based on a change in the hazard function resulting from a retention

effort, but does disclose the identification of "at risk" customers in col. 3,lines 32-38.

However, Bank Marketing discloses calculating a gain in lifetime value for the

customer based on a change in the hazard function resulting from a retention effort /a

calculating module/means for calculating, (Page 4, paragraphs 4-6, changing to a focus

based on retention in order to look at estimated lifetime value (calculation of), where it is

shown that the frequency of customer defection and likelihood of switching (hazard

function) is determined prior to calculating the lifetime value). Bank Marketing discloses

this limitation in an analogous art for the purpose of showing that the frequency of

customer defection and likelihood of switching (which represents the hazard function)

plays a critical role in calculating the lifetime value of a customer.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to calculate a gain in lifetime value for the customer based on a

change in the hazard function resulting from a retention effort with the motivation of

determining `the customers likelihood of switching during the time the customer is

committed to the business.

As per claims 2, 17, 32, 47, Flockhart et al does not specifically disclose

calculating a lifetime value /calculates a lifetime value, but does disclose the

identification of "at risk" customers in col. 3, lines 32-38.

However, Bank Marketing discloses:

Calculating a lifetime value based on original contract terms and revenue

associated with the customer/calculates a lifetime value, (Page 4, paragraphs 4-8,

changing to a focus based on retention in order to look at estimated lifetime value

(calculation of), where it is shown that the frequency of customer defection and

likelihood of switching (hazard function) is determined prior to calculating the lifetime

value, also shows the incorporation of revenue streams and cost models, in addition,

Bank Marketing discloses calculating the lifetime value for a bank, and customers of

banks are under some form of a contract). Bank Marketing discloses this limitation in

an analogous art for the purpose of enabling the business to better understand revenue

streams during the time a customer is with the bank.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to calculate a lifetime value based on original contract terms and

revenue associated with the customer with the motivation of determining how revenue

affects the customer's retention while he is committed to the business.

As per claims 3, 18, 33 and 48, Flockhart et al fails to disclose analyzing the shape of the hazard function generated for the customer, but does disclose an "at risk" customer function in col. 3, lines 5-11.

However, the Bank Marketing International article discloses:

Analyzing...the hazard function generated for the customer; and specifying a set of marketing techniques based on...the hazard function, (Page 4, paragraph 8, lines 1-5, shows that factors such as propensity to defect and altered cost models associated with the business are evaluated, and a rank order is assigned to customer base based on the lifetime value (marketing technique), which is based on the hazard function as shown above). Bank Marketing discloses this limitation in an analogous art for the purpose of showing that the bank implements the technique of assigning a rank order to customers for marketing purposes.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to analyze the hazard function generated for the customer, and specify a set of marketing techniques based on the hazard function with the motivation of implementing a marketing technique that suits the customer's situation.

Bank Marketing does not specifically disclose "the shape of the hazard function", however, this feature is inherent with Bank Marketing since here, altered models are used to determine the likelihood of a customer switching.

As per claims 4, 19, 34 and 49, Flockhart et al discloses:

Specifying a set of incentives to offer the customer based on the gain in lifetime value, (Col. 3, lines 40-48, "at risk" customers given high priority).

As per claims 13, 28, 43 and 58, Flockhart et al fails to disclose determining that value of the set of incentives offered to the customer does not exceed the gain in lifetime value, but does disclose that a call is routed to a supervisor for special handling if a threshold is exceeded in Col. 4, lines 1-5.

However, the Bank Marketing International article discloses:

Determining that value of the set of incentives offered to the customer does not exceed the gain in lifetime value, (page 5, paragraph 11, lines 5-8, represented by offering a lower price, or dropping a charge by knowing the lifetime value and still making a good return). Bank Marketing discloses this limitation in an analogous art for the purpose of showing that incentives such as offering a lower price can be included without affecting the customer's loyalty to the business.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine that value of the set of incentives offered to the customer does not exceed the gain in lifetime value with the motivation of matching the value of incentives with the lifetime value.

As per claim 62, Flockhart et al discloses:

Implementing the program based on the determined focus, (col. 3, lines 38-52, shows that if there is an "at risk" customer, special treatment is implemented, also, col. 1, lines 24-28 shows that business generally implements customer service focus on agent training in an attempt to maintain high standards of service).

As per claim 63, Flockhart et al discloses:

Generating, for each of a plurality of customers, a hazard function to determine a

probability of churn for each customer, the hazard function based on attributes relating

to customer account information, (Col. 3, lines 32-38, comparing the customer account

number to the "at risk" database to determine if the customer is an "at risk" customer,

also col. 1, lines 12-32 shows that the determination of an "at risk" customer is for

existing customers);

Identifying a temporal-based retention effort based on the hazard function for

each of the plurality of customers, (col. 3, lines 38-52, shows that if there is an "at risk"

customer, some kind of special treatment is implemented, also, col. 1, lines 24-28

shows that business generally implements customer service focus on agent training in

an attempt to maintain high standards of service);

Determining a focus for customer interaction based on the expected gain in

value, (col. 3, line 63-Col. 4, line 5, shows that if a threshold is exceeded, the call is

routed to a supervisor)

Flockhart et al fails to disclose calculating, for each of the plurality of customers,

an expected gain in value from the identified retention effort, but does disclose the

identification of "at risk" customers in col. 3,lines 32-38.

However, Bank Marketing discloses for each of the plurality of customers, an

expected gain in value from the identified retention effort, (Page 4, paragraphs 4-6,

changing to a focus based on retention in order to look at estimated lifetime value

(calculation of), where it is shown that the frequency of customer defection and

likelihood of switching (hazard function) is determined prior to calculating the lifetime

value). Bank Marketing discloses this limitation in an analogous art for the purpose of

showing that the frequency of customer defection and likelihood of switching (which

represents the hazard function) plays a critical role in calculating the lifetime value of a

customer.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to calculate for each of the plurality of customers, an expected gain

in value from the identified retention effort with the motivation of determining `the

customers likelihood of switching during the time the customer is committed to the

business.

As per claim 64, Flockhart et al discloses:

Generating a hazard function, based on a reference hazard function model, for

each of the plurality of customers, (Col. 3, lines 32-38, comparing the customer account

number to the "at risk" database to determine if the customer is an "at risk" customer,

where the reference is coming from the values in the database);

As per claim 65, Flockhart et al discloses:

Wherein the temporal-based retention effort comprises retention actions directed

to each customer during a second time period occurring after the first time period, (col.

3, line 53-col. 4, line 5, first routing the call to a specialist, then to a supervisor).

As per claims 66-69, Flockhart fails to disclose wherein calculating a gain in

lifetime value based on a change in the hazard function resulting from a retention effort

comprises calculating expected revenue multiplied by an increase in remaining lifetime

resulting from the retention effort, but does disclose a retention effort by identifying "at

risk" customers and then implementing special treatment as disclosed in col. 3, lines 30-52.

However, calculating a gain in lifetime value based on a change in the hazard function resulting from a retention effort comprises calculating expected revenue multiplied by an increase in remaining lifetime resulting from the retention effort is obvious with Bank Marketing./ Bank marketing does not specifically state that the expected revenue is multiplied by an increase in the remaining lifetime, however, this article does lead to the same result. Bank Marketing describes implementing activity based costing into the equation for determining the customer value on page 3, paragraphs 9-12. On page 3, paragraph 17-Page 4, paragraph 4, Bank Marketing discloses the identification of patterns as activity based costing is altered, which ultimately helps determine profitable segments for the customer base, and eventually the lifetime value for that customer. In this case, utilizing the profitable segments in the equation for calculating the lifetime value represents the gain in lifetime value.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to calculate a gain in lifetime value based on a change in the hazard function resulting from a retention effort by calculating expected revenue multiplied by an increase in remaining lifetime resulting from the retention effort with the motivation of ultimately determining the gain in lifetime value.

7.   Claims 5-12, 14-15, 20-27, 29-30, 35-42, 44-45, 50-57, 59-61, 70, are rejected under 35 U.S.C. 103(a) as being unpatentable over Flockhart et al (US 6,064,731), and

further in view of the Bank Marketing International article entitled "Are your customers

profitable?", and further in view of Sanders (6,411,936).

As per claims 5, 20, 35 and 50, 7, 9, 22, 24, 37, 39, 52, 54, 56, Flockhart et al

fails to disclose determining, based on the shape of the hazard function, but does

disclose an "at risk" customer function in col. 3, lines 5-11.

However, this feature is inherent with Bank Marketing since here, altered models

are used to determine the likelihood of a customer switching.

Both, Flockhart et al and the Bank Marketing International article fail to disclose

effect on churn of contract expiration, but Flockhart et al does disclose churn by

identifying "at risk " customers in Col. 3, lines 5-8.

However Sanders discloses:

Determining ...there is no effect on churn of contract expiration, (Col. 11, line 44-

Col. 12, line 10, determining lead generation by using contract value). Sanders

discloses this limitation in an analogous art for the purpose of showing the effect of

having the contract value goes over a certain limit.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to use the contract terms and revenue to calculate the lifetime

value with the motivation of determining which customers are bound to an agreement

for specified periods of time and using this information to truly calculate how long a

customer will be a customer and how much revenue that customer can pull in for that

determined time.

As per claims 6, 21, 36, 51, the Flockhart et al fails to disclose taking no further steps to deter churn, but does disclose taking the steps to deter churn in Col. 3, lines 53-63.

However, Bank Marketing International article discloses:

Taking no further steps to deter churn, Page 4, paragraph 4, line 2, finding alternative banking arrangements). Bank Marketing discloses this limitation in an analogous art for the purpose of showing that the customer can be routed to another bank or business.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to take no further steps to deter churn with the motivation of avoiding the handling of customers who have a great possibility of leaving the business.

As per claims 14, 15, 29, 30, 44, 45, 59, 60, both Flockhart et al and the Bank Marketing International article fails to disclose clustering the hazard function for the customer and hazard functions for a plurality of other existing customers so that the hazard functions are grouped together according to shape, each group representative of a customer set/determining, based on the overall shape of the clustered hazard functions, a focus for retention-based interactions for each customer set, but Flockhart et al does disclose clustering of all callers into one telephone network, and Bank Marketing disclose that customers can be grouped/segmented on Page 3, paragraph 15, lines 1-2.

However Sanders discloses:

Clustering the hazard function for the customer and hazard functions for a plurality of other existing customers so that the hazard functions are grouped together according to shape, each group representative of a customer set/determining, based on the overall shape of the clustered hazard functions, a focus for retention-based interactions for each customer set, (Col. 17, lines 48-52, represented by clusters of elemental information). Sanders discloses this limitation in an analogous art for the purpose of showing that data used for determining a lead can be clustered together.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to cluster all of the hazard functions for each of the plurality of new customers with the motivation of determining the average solution for keeping a customer.

As per claims 8, 10, 11, 12, 23, 38, 25, 26, 27, 40, 41, 42, 53, 55, 57, both Flockhart et al and Bank Marketing International fail to disclose having a moderate pre-expiration effort where new contracts or continued contracts are the goal/ concentrating effort on pre-expiration of contract where a contract renewal may not be required/having high intensity pre-expiration effort with continued competitive offers to maintain customer/determining, based on the shape of the hazard function, that there is a large increase in probability of churn at expiration with high and increasing post-expiration probability of churn, but Flockhart et al does disclose determining the possibility of churn by determining "at risk" customers in col. 3, lines 5-8.

However Sanders discloses:

Having a moderate pre-expiration effort where new contracts or continued

contracts are the goal/concentrating effort on pre-expiration of contract where a contract

renewal may not be required/having high intensity pre-expiration effort with continued

competitive offers to maintain customer/determining, based on the shape of the hazard

function, that there is a large increase in probability of churn at expiration with high and

increasing post-expiration probability of churn, (Col. 11, line 66-Col. 12, line 6,

represented by yielding to a group of low profit contracts that are listed as a separate

category). Sanders discloses this limitation in analogous art for the purpose of

separating different type of contracts to determine leads.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to produce new or continued contracts with the motivation of

keeping dedicated customers.

As per claim 61, Flockhart et al discloses:

generating a hazard function for an existing customer, to determine probability of

churn based on account data associated with customer and corresponding to a set

attributes, (Col. 3, lines 32-38, comparing the customer account number to the "at risk"

database to determine if the customer is an "at risk" customer, also col. 1, lines 12-32

shows that the determination of an "at risk" customer is for existing customers);

determining a focus for a retention-based program based on at least one of the

hazard function and the gain in lifetime value/means for determining, (col. 3, lines 38-

52, shows that if there is an "at risk" customer, special treatment is implemented, also,

col. 1, lines 24-28 shows that business generally implements customer service focus on agent training in an attempt to maintain high standards of service).

Flockhart et al does not specifically disclose calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort, but does disclose the identification of "at risk" customers in col. 3,lines 32-38.

However, Bank Marketing discloses calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort /a calculating module/means for calculating, (Page 4, paragraphs 4-6, changing to a focus based on retention in order to look at estimated lifetime value (calculation of), where it is shown that the frequency of customer defection and likelihood of switching (hazard function) is determined prior to calculating the lifetime value). Bank Marketing discloses this limitation in an analogous art for the purpose of showing that the frequency of customer defection and likelihood of switching (which represents the hazard function) plays a critical role in calculating the lifetime value of a customer.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to calculate a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort with the motivation of determining `the customers likelihood of switching during the time the customer is committed to the business.

Both Flockhart et al and Bank Marketing fail to disclose a multiyear feed-forward neural network, but Flockhart et al does disclose a telephone network in Fig. 1.

However, Sanders discloses:

a neural network, (Col. 19, lines 33-36, this neural network includes multiyear feed-forward types). Sanders discloses this limitation in an analogous art for the purpose of showing that neural networks can be used to perform necessary processing.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate a multiyear feed-forward neural network with the motivation of utilizing this type of intelligence to determine the possibility of churn.

As per claim 70, Flockhart et al discloses:

generate a hazard function model based on the account data associated with a plurality of current customer accounts and corresponding to the set of attributes, (col. 3, lines 5-11, "at risk" customer function invoked by account number, where the "at risk" customer function represents the hazard function model and the customer account number represents the attribute); and

Wherein generating a hazard function includes generating a hazard function for an existing customer, to determine probability of churn, based on the hazard function model and the account data associated with the customer and corresponding to a set of attributes, (Col. 3, lines 32-38, comparing the customer account number to the "at risk" database to determine if the customer is an "at risk" customer, also col. 1, lines 12-32 shows that the determination of an "at risk" customer is for existing customers);

Both Flockhart et al and Bank Marketing fail to disclose training the neural network, but does disclose using the telephone network to determine "at risk" customers in Col. 3, lines 5-8.

However, Sanders discloses:

Training the neural network, (col. 17, line 62-col. 18, line 33, shows the process of determining the direction of movement and the accuracy of projections of values to come up with a value enhancement solution, w/ col. 19, lines 34-37, shows that the process is carried out by neural network, thus this network must be trained in order to carry out the process). Sanders discloses this limitation in an analogous art for the purpose of showing that neural networks can be used to perform necessary processing.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to incorporate a neural network with the motivation of utilizing this type of intelligence to determine the possibility of churn.

Response to Arguments

8.   Applicant's arguments with respect to claims 1-65 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 703-305-1340. The examiner can normally be reached on Monday-Tuesday 8:30am-5pm, and Wednesday, 8:30 am-12:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-746-7238

[After final communications, labeled "Box AF"], 703-746-7239 [Official Communications],

and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

A. R. B.
November 12, 2004

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600